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ABSTRACT

Attentional processes are said to be central to children's academic learning, yet theories of attention may not be useful in defining and measuring such learning. A formal survey of 35 preschool teachers indicated that teacher definitions were either vague and intuitive, based on many observable child behaviors (like eye orientation and being quiet), or inferred from noting the results of successful teaching. Since the most consistent theme of these definitions was whether the child was "on task," a study was designed to see whether this definition of attention was workable and informative. Observations were made of six developmentally delayed and mentally retarded children and six normal children ages 3 to 5 years. The students were observed during a preacademic time when they were instructed to complete an assigned task within the group or individually. Observers recorded on- and off-task behavior and possible distractors every 10 seconds. Results showed that normal and delayed children are typically on-task in their teacher's presence. They are appreciably off-task in their teacher's absence, more so for developmentally delayed children. It was concluded that what teachers consider inattention may be social reactions to their absence rather than generalized central or organic deficiencies. (Author/CB)

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TEACHER-CONTROLLED ATTENTION PATTERN
IN NORMAL AND DEVELOPMENTALLY DELAYED PRESCHOOL CHILDREN

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ABSTRACT

Attentional process are said to be central to children's academic learning, yet its theories are not yet very useful in defining and measuring it. A survey of 35 preschool teachers showed that their definitions of attention were either (1) primitive and intuitive, (2) based on many observable child behaviors like eye orientation and being quiet, or (3) an inference from on-task behavior. A study of the effect of teacher presence on their students' on-task classroom behavior showed that normal and delayed children are typically on-task in their teachers' presence, but appreciably off task in their teachers' absence, more so for developmentally delayed children.

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Teacher-controlled Attention Pattern in Normal and Developmentally Delayed Preschool Children

Theorists (i.e., Fisher & Zeaman, 1973; Hale & Lewis, 1979; Zeaman & House, 1963) suggest that attentional processes are fundamental to information processing, and thus to learning, especially classroom learning. Even so, the measurement of attention has proven to be a subtle and perplexing problem, especially outside of research laboratories. No doubt, the divergent ways in which various theories of attention characterize it underlie the present diversity and ambiguity of its operational definitions.

The problem of defining attention was referred to 35 preschool teachers in a university community; these teachers were known to be very sensitive to the presumably crucial developmental role of attentional problems in young children. A formal survey of these teachers first established a context of concern for attentional problems in classroom settings, and then asked the teachers to draw on their experience with such problems to define attention and classroom attending behavior. The purpose of the survey was to explore 1) how these classroom teachers defined attention; 2) how consistent their definitions were as a group; and 3) how much agreement existed between their definitions and the ones presented in the behavioral-science literature including cognitive and behavioristic views. A subgoal was to explore whether the teachers thought that attention needed categorization into different types, and then to ask how those subtypes could be measured in their classrooms.

Finally, the survey explored what behavior problems teachers were likely to attribute to a child with an attention deficit.

The results of the survey indicated that these preschool teachers defined "attention" in a great variety of ways; within that variety, perhaps three patterns can be discerned:

(1) Many teachers deal with attention as a primitive term, and are clearly at a loss to define it, or even to characterize it with any terms less ambiguous than it. Thus their categorizations of it are usually equally ambiguous and primitive terms, such as "listening" and "thinking", or underlying "cognitive" and "affective" processes. Unsurprisingly, their suggestions for measuring it in classroom settings often consisted of the single word, "observation"; they also insisted that its "observation" would depend on the situation, the task, the setting, the child, etc. -- but without specification or even example. In effect, these teachers will know it when they see it.

(2) A considerable number of teachers were also willing to equate attention to some of its observable behavioral manifestations, such as being quiet, being still (not "fidgeting"), looking at a source of information, and doing an assigned task. Their categorizations of attention reflected their basic varieties of teaching settings-- one-on-one vs. group instruction, small-motor vs. large-motor activities, and story-time vs. show-and-tell vs. free-play contexts. For these teachers, measurement is a potentially workable but probably tedious problem in detailed behavioral observation and

measurement.

(3) A small number of teachers inferred that attention was something that must have been operative whenever teaching or child management was successful -- when a student did an assigned task correctly or followed an instruction, or in any other way showed that a teacher's explanation was acted on as the teacher intended. For these teachers, the subcategories of attention are essentially the subcategories of such successes, and do not seem to be conceptually important. Measurement of attention becomes the measurement of compliance with instructions, success with assigned tasks, and sudden success after explanations of why previous attempts had failed.

The most consistent workable theme in the teachers' responses to the survey was their equation of attention to being on-task (in the broadest sense of "task"). That probably reflects their very frequent role of assigning or suggesting "tasks" (activities, games, play opportunities, etc.). Thus the current observational preschool-classroom study was an observational definition of on-task somewhat reflective of the teachers' examples and connotations, to see if it would prove workable and informative. The major variables to be scored in that study were children's on-task and off-task behavior, teacher presence and absence, and the apparent source of any distractors that took children off-task.

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Method

Setting

All of the subjects were observed in their classroom setting during a preacademic time when the students were instructed to complete an assigned task, either within the group or individually.

Subjects

Twelve children were selected for observation; six of them were either developmentally delayed (five) or retarded (one), and the rest were normal children roughly matched by sex and age to the first six children. The age range of the DD/MR children was 38-68 months, and for the normal children was 40-59 months. The developmentally delayed children were referred to researchers by their teachers as having some kind of attention problem in the academic setting.

Behavioral Definitions

On-task was defined as head and eyes oriented toward the task the child was to complete.

Off-task was defined as pauses in the completion of the task due to distractors in the child's environment.

Three categories of distractors were defined. The first was actions by the child that interrupted the child's on-task behavior. For example, being out of seat finishing the task; and showing materials to others. The second was voice noises in response to other's voices speaking that was not directed to the child (e.g., a teacher's instructions to another child). The third was the presence or entrance of "new" people (children,

teachers, or strangers) in the classroom.

Observation and Recording

An observer equipped with clipboard, recording forms, and stopwatch recorded the on-task/off-task behavior of the child, the presence of a teacher, and the type of any distractor that caused the child to go off-task. Observer remained close to the subjects, but did not interfere with their activities, and did not interact with them in any way. Recording was done in 10 second intervals. Observations were made four days a week for approximately 10-30 minutes per day during the preacademic time.

Reliability

Interobserver reliability was checked 7 times. Agreement was evaluated during each condition for on-task and off-task; teacher presence and absence, and the three categories of distractors.

Agreement was scored interval by interval, for every interval in which one observer recorded the behavior of interest. The percentage of agreement for the recorded behavior was calculated as $100 \times (\text{agreements}) / (\text{agreements} + \text{disagreements})$.

Results

Reliabilities, expressed as percentages of observer agreement, are shown in Table 1 for the target behavior and the distractors.

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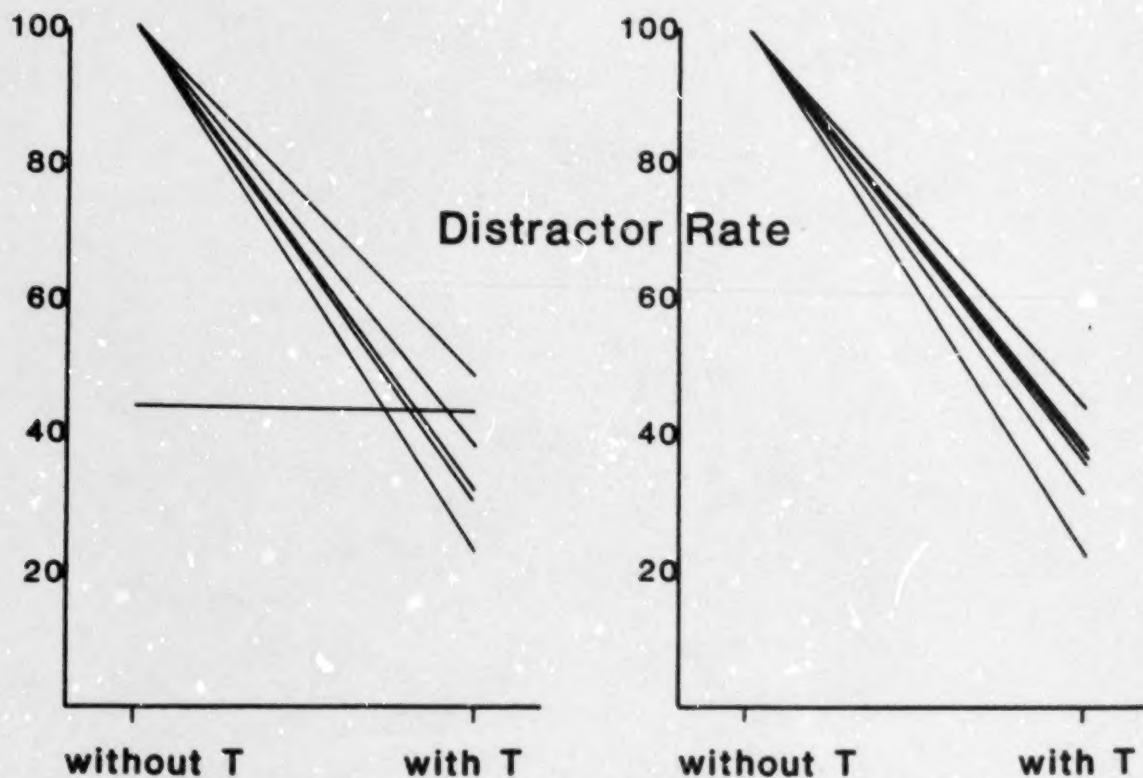
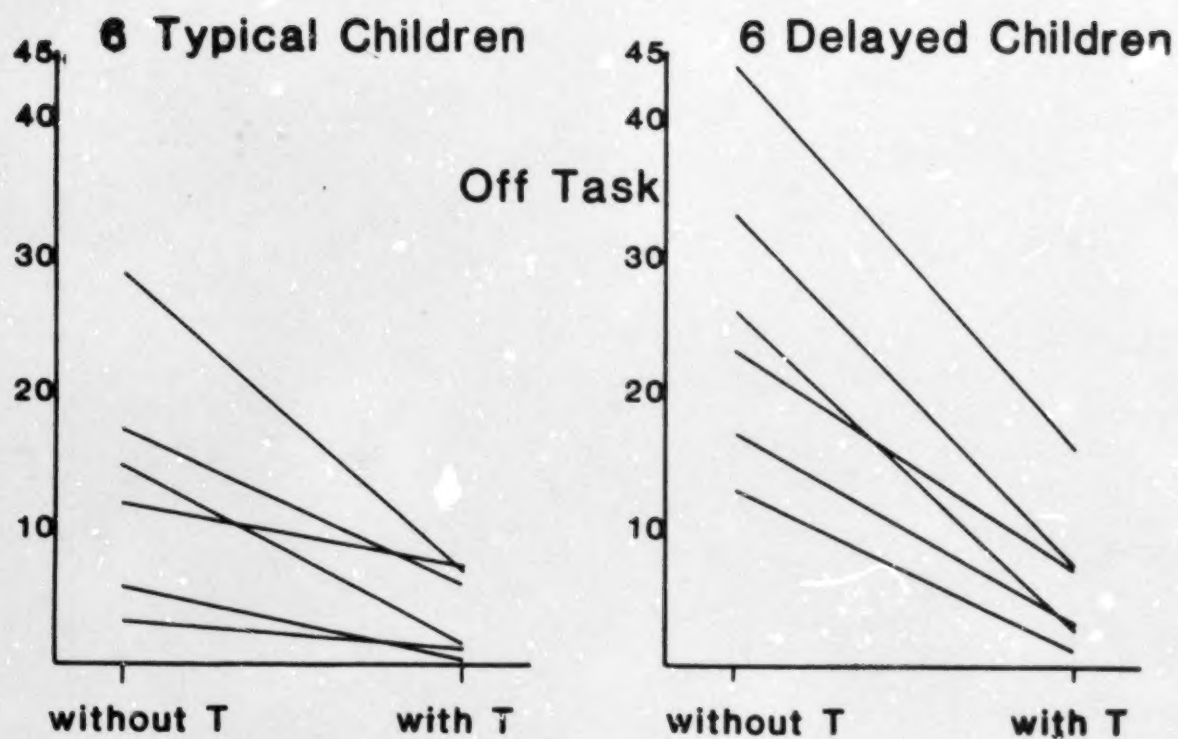
Table 1

Percentage of Observer agreement about the
Recorded Behaviors and distractors

Behavior	Mean Percentage	
	Normal	Deviant
Off-task with teacher	95	90
Off-task without teacher	80	76
Distractor		
Action	69	63
Voice and noises	61	75
Presence of others	80	70

The effect of teacher presence on attending behavior (i.e., on-task/off-task) in the two groups of children (i.e. normal and developmentally delayed children) are shown in Figure 1. As Figure 1 indicates, a very strong relationship between teacher presence and a student's attention to task: In the presence of a teacher, normal and developmentally delayed children alike were typically on-task, respectively; but in the absence of a teacher, both kinds of children were quite likely to be off-task, more so for the developmentally delayed than for the normal children. The Figure 1 also shows the power of distractors in the presence and absence of the teacher.

FIGURE 1



Except in the case of one normal child, the distractors showed a similar pattern: In the teacher's absence, the distractors strongly affected the child's on-task behavior, both groups were equally distractable. Some distractors (e.g., finishing the task, teacher's instructions to other peers, peers' activities, and peers' conversations) were more powerful than others, but all three categories were operative during almost all sessions.

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Discussion

These data suggest that current theories of attention and its subcategories are not very influential among teachers trying to cope with academic problems that they have been taught to attribute to something called "attentional failures". These data also suggest that on-task behavior, which is what teachers most often seem to recognize as attention, is, ironically enough, highly dependent on their presence, for both normal and developmentally delayed preschool children. Although this important factor has not been given enough attention in the past by the previous researchers. Perhaps future research should consider attention as a teacher-mediated social phenomenon, as well as a cognitive, sensory, or neurophysiological attribute of the child. A very considerable amount of what teachers complain about as inattention appears in this study to be relatively simple social reactions to their absence, rather than generalized central or organic deficiencies.

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